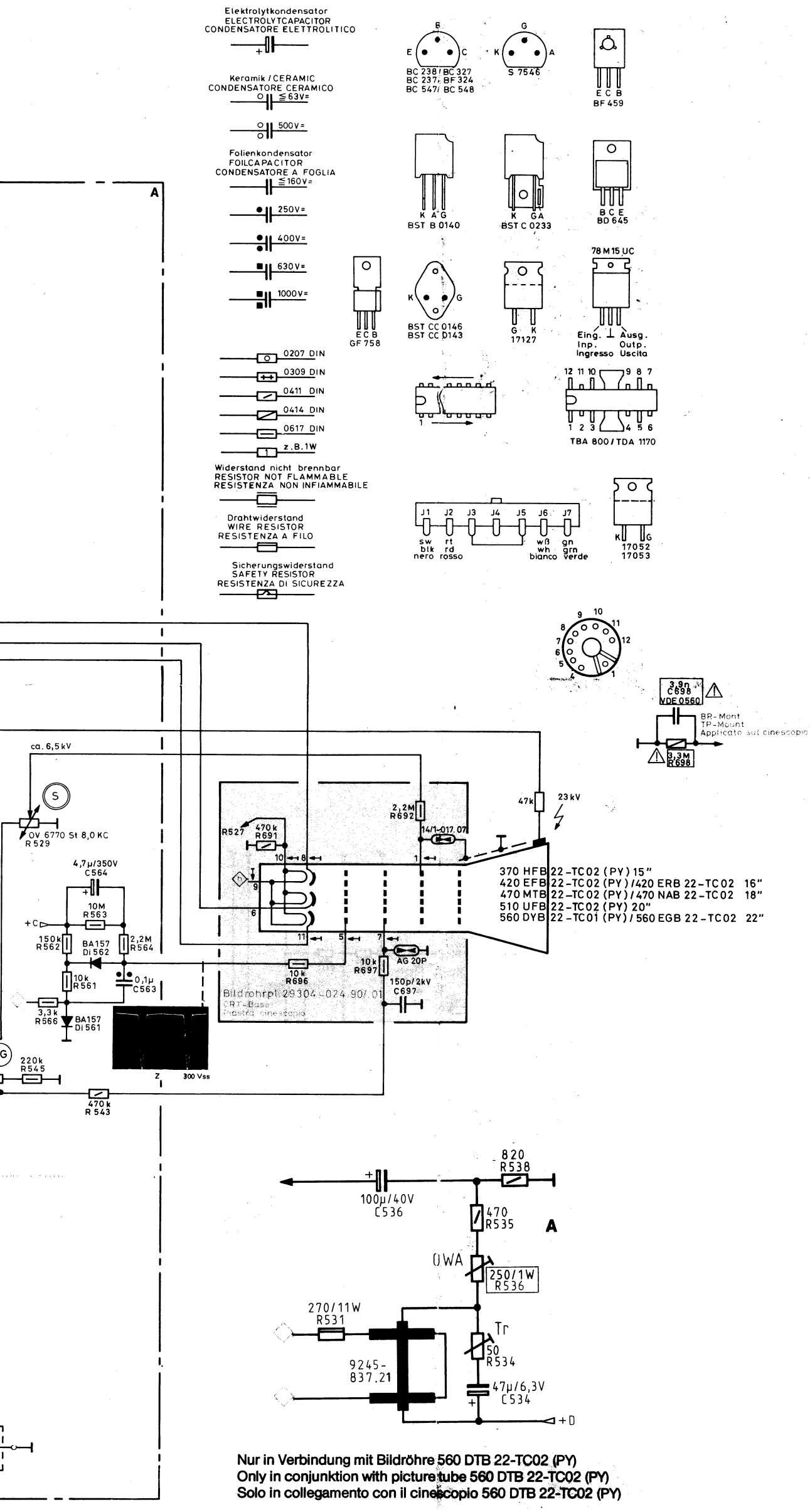
GRUNDIG 4215

MODEL

SERVICE MANUAL



Nur in Verbindung mit Bildröhre 560 DTB 22-TC02 (PY)
Only in conjunktion with picture tube 560 DTB 22-TC02 (PY)
Solo in collegamento con il cinescopio 560 DTB 22-TC02 (PY)

Die mit ⚠ bezeichneten Bauelemente **sind für die Gerätesicherheit absolut** notwendig und entsprechen den **Richtlinien des VDE bzw. IEC.**
Im Ersatzfall dürfen nur Bauteile mit gleicher Spezifikation **Verwendung finden.**

The components marked by ⚠ **are absolutely necessary for the safety** of the set. These components meet the **safety requirements according to** VDE or IEC, resp. and must be replaced by **parts of same specifications only.**

I componenti ⚠ hanno la **massima importanza** per la sicurezza dell'apparecchio e sono conformi alle norme di sicurezza VDE e IEC.
In caso di sostituzione impiegare quindi soltanto pezzi di ricambio originali.

Die umrandeten Positionen sind Sonderbauteile **mit besonderer Spezifikation,** die für die Funktion des Gerätes und **die Sicherheit wichtig sind.**
Bei Ersatz sind daher unbedingt nur **Originalteile zu verwenden.**

The framed positions are special components **with extra specification,** which are essential for the function and safety of the set. So in case of replacement there must be used original parts only.

Le posizioni nel quadratino rosso sono componenti speciali.
Questi componenti hanno la massima importanza per il funzionamento e la sicurezza dell'apparecchio. **In caso di sostituzione impiegare quindi soltanto pezzi di ricambio originali.**

Alle Spannungen und Ströme sind **gemessen mit Farbsignal bei** max. Kontrast ohne Helligkeit, bei 220 V~ **Netzspannung mit** Universalvoltmeter UV4.
Spannungen in Klammern ohne Signal gemessen.

All voltages and currents are measured with a GRUNDIG voltmeter UV4 under following conditions: colour signal, max. contrast, no brightness, mains voltage 220 V AC.
Values in brackets are measured **without signal.**

Tutte le tensioni e correnti sono misurate **con segnale colore al** massimo contrasto e senza luminosità, **con 220 V~ di alimentazione** mediante il voltmetro UV4.
Le tensioni fra parentesi sono misurate **senza segnale.**

Hinweis für den Fachhandel in Deutschland !
Für Fachbetriebe, die Reparaturen selbst durchführen wollen, stehen Reparaturanleitungen auf **Mikroplanfilm** zur Verfügung.
Im übrigen empfehlen wir den Baustein-Austauschdienst.

Avvertenza per i rivenditori tedeschi specializzati!
Per ditte specializzate, che vogliono eseguire riparazioni di moduli di propria iniziativa, sono a **disposizione microfilm** corredati di istruzioni per riparazioni moduli. Tuttavia consigliamo il Servizio scambio moduli.

Information for the dealer
We normally recommend the **GRUNDIG module exchange service,** but for dealers who **wish to repair modules themselves,** module repair instructions are **available.**

Chassis GSC 100

GRUNDIG

Super Color	**1514**	(24402)
Super Color	**1614**	(24401)
Super Color	**16414**	(24382)
Super Color	**1615**	(24408)
Super Color	**1814**	(24399)
Super Color	**1815**	(24410)
Super Color	**4614**	(24396)
Super Color	**4415**	(24384)
Super Color	**2015**	(24412)
Eleganz	**4215**	(24414)
Super Color	**6215**	(24389)
Super Color	**6615**	(24375)
Eleganz	**6215**	(24417)

Headphone Connection
only with
Kopfhöreranschluß
nur bei S. Col. 1514/1614/1615/16414/1814/1815/2015
collegamento auricolare
solo con

9030-313.01
68Ω R248
LCA 0207 Si
29621-013.01/ -017.04

19026-007.21 (32Ω)
bzw.
19044-008.21 (32Ω) S.C.1615/1815/2015
19046-015.31 (22Ω) S.C.6214/6615
19076-009.31 (22Ω) S.C.6215
Eleganz 6215

22n C234
solo con
nur bei S.Col.1815/4415
only with 2015/6215
6615/1615
Eleganz 4215/6215
100k R234

H
15k R388

FK
1k R817

270Ω R816
2,7k R818
+F
2,7k R819
FKI
25k R820

+H
+G
approx. ca. 23V
+L

NF-Baust 29301-004.90/.04
AF Module
Mod. BF

Farb-Baust 29301-024.90/.01
Colour Module
Mod. colore

10k R231
3,3n C231
10k R232
1,5n C232
100p C233

12p C201

Z 3 Vss
B 30 Vss
Z 1,3 Vss
Z 1 Vss
Z 2,8 Vss

6,2V

2,2k R352
3022-107
1,8k R353
1,9V

4,7k R385
+F
12k R386
22k R389
22k R387
HI
SW-S

1k R383
1k R384

-(B-Y)
-(R-Y)

RGB-Baust 29301-046.93/.03
RGB-Module
Mod. RVB

+F
-R
-B
+C

3,3k R359
270p C357
10k R357
1k R358

3,9k R471
82n C471
47Ω R361

BA157 Di 399
3,9k R399
5,6k R398
10k R391
68k R392
10k R393
68k R394
10k R396
68k R397
SWB
SWG
SWR

K
5k R368
2,2k R367
KI
5k R369
+F

ca. 6,5kV
S
OV 6770 St 8,0 KC
R529

4,7µ/350V C564
10M R563
+C
150k R562
BA157 Di 562
2,2M R564
10k R561
0,1µ C563
3,3k R566
BA157 Di 561

56Ω R477
BA157 Di 477
100µ/10V C477
100µ/10V C478
BA157 Di 478
56Ω R478
BZ
500Ω R476
1000µ/16V C473
100Ω R473
470Ω R474

B 36 Vss

NKS 2
5,6Ω R509

Regel-Baust 29301-035.90/.03
Control Module
Mod. regolatore EAT

+B
1µ C504

Z 55 Vss
+A
2,2n C528
10n C527 FKP1

3,9k R525
F 50 mA Si 528
TVK 86-5
wahlw./opp./or
BG 2000-641-000
1,2V
BYY56 Di 528
1,2k b.BG 2000
680Ω/2W
b.TVK86
R528
ca. 7,4 kV

56k R546
807 V
SG
220k R545
500k R547
470k R543
0,47µ C545

Zeilentr. kpl. 29201-011.01
Line Transf.
Trasf. di riga compl.

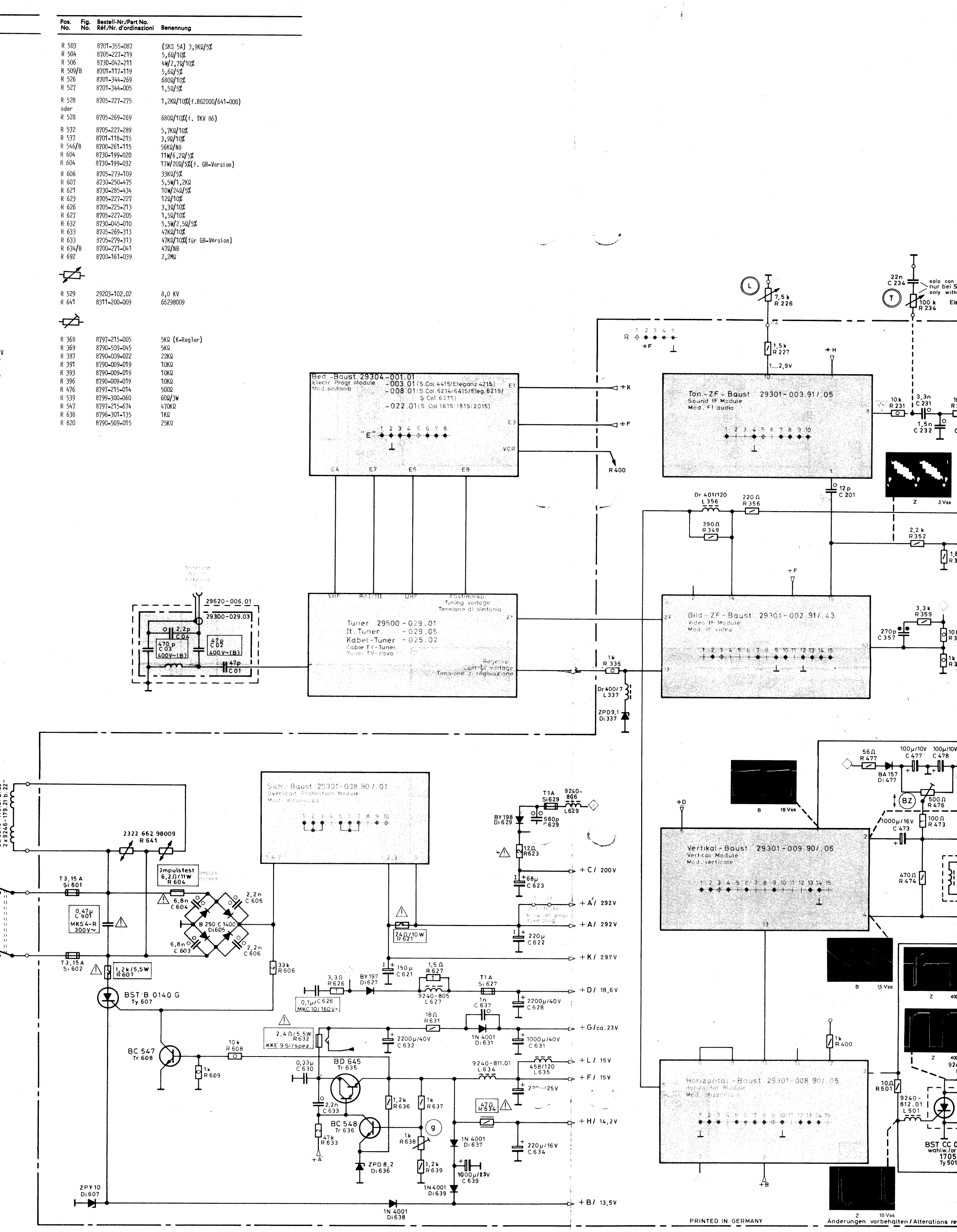
B 15 Vss
Z 400 Vss
17127
Ty 503
R632
T 6,3A Si 511
Z 25 Vss
SKS 5
3,9k R503
+A
2,7Ω/4W R506
Impulsfest
560p C501 Keram 1,5kV
SKE 2 G 2/01 Di 511
560p C511
Z 250 Vss
R691
SKS 4
1,5Ω R527

1k R400
Z 400 Vss
9240-806 L502
FKP1 62n C503
FKP1 0,22µ C507
49V
9245-848.21
9246-805.21 L503
10Ω R501
9240-812.01 L501
2,7Ω C502 FKP1
Dr 405/1800 L508
40n 42n b.22" C506 FKP1
BY 295/600 Di 508
180Ω/11W R502
47n C505 FKC 3
-2,6V
BST CC 0146 R
wahlw./or/risp.te
17053
Ty 501
BST CC 0143 H21
wahlw./or/risp.te
17052
Ty 508
5,6Ω R504
9240-813.01 L504
100Ω R505
BA 157 Di 505
ZY 68 Di 504
ZL
29203-004.03
680Ω R526 SKS 4
4,7k R532
2,3µ C532 MKC 4-S
2,3µ C526 MKC 4-S
49V
BZ
BA157 Di 538
60Ω/3W R539
BA157 Di 539
3,9Ω R537 SKS2
9245-401 L538

Z 10 Vss
Z 440 Vss
Z 20 Vss
Z 55 Vss
Z 15 Vss

Änderungen vorbehalten / Alterations reserved / Con riserva di modifiche

Pos. No.	Fig. No.	Bestell-Nr./Part No. Réf./Nr. d'ordinazioni	Benennung
R 503		8701-355-087	(SKS 5A) 3,9KΩ/5%
R 504		8705-227-219	5,6Ω/10%
R 506		8730-042-211	4W/2,7Ω/10%
R 509/B		8701-117-119	5,6Ω/5%
R 526		8701-344-269	680Ω/10%
R 527		8701-344-005	1,5Ω/5%
R 528		8705-227-275	1,2KΩ/10%(f.BG2000/641-000)
oder			
R 528		8705-269-269	680Ω/10%(f. TKV 86)
R 532		8705-227-289	5,7KΩ/10%
R 537		8701-118-215	3,9Ω/10%
R 546/B		8700-261-115	56KΩ/NB
R 604		8730-199-020	11W/6,2Ω/5%
R 604		8730-199-032	17W/20Ω/5%(f. GB-Version)
R 606		8705-279-109	33KΩ/5%
R 607		8730-250-475	5,5W/1,2KΩ
R 621		8730-285-434	10W/24Ω/5%
R 623		8705-227-227	12Ω/10%
R 626		8705-225-213	3,3Ω/10%
R 627		8705-227-205	1,5Ω/10%
R 632		8730-045-010	5,5W/2,5Ω/5%
R 633		8705-269-313	47KΩ/10%
R 633		8705-279-313	47KΩ/10%(für GB-Version)
R 634/B		8700-271-041	47Ω/NB
R 692		8700-161-039	2,2MΩ
R 529		29203-102.02	8,0 KV
R 641		8311-200-009	66298009
R 368		8797-215-005	5KΩ (K-Regler)
R 369		8790-509-045	5KΩ
R 387		8790-009-022	22KΩ
R 391		8790-009-019	10KΩ
R 393		8790-009-019	10KΩ
R 396		8790-009-019	10KΩ
R 476		8797-215-014	500Ω
R 539		8799-300-060	60Ω/3W
R 547		8797-215-674	470KΩ
R 638		8796-301-135	1KΩ
R 820		8790-509-015	25KΩ



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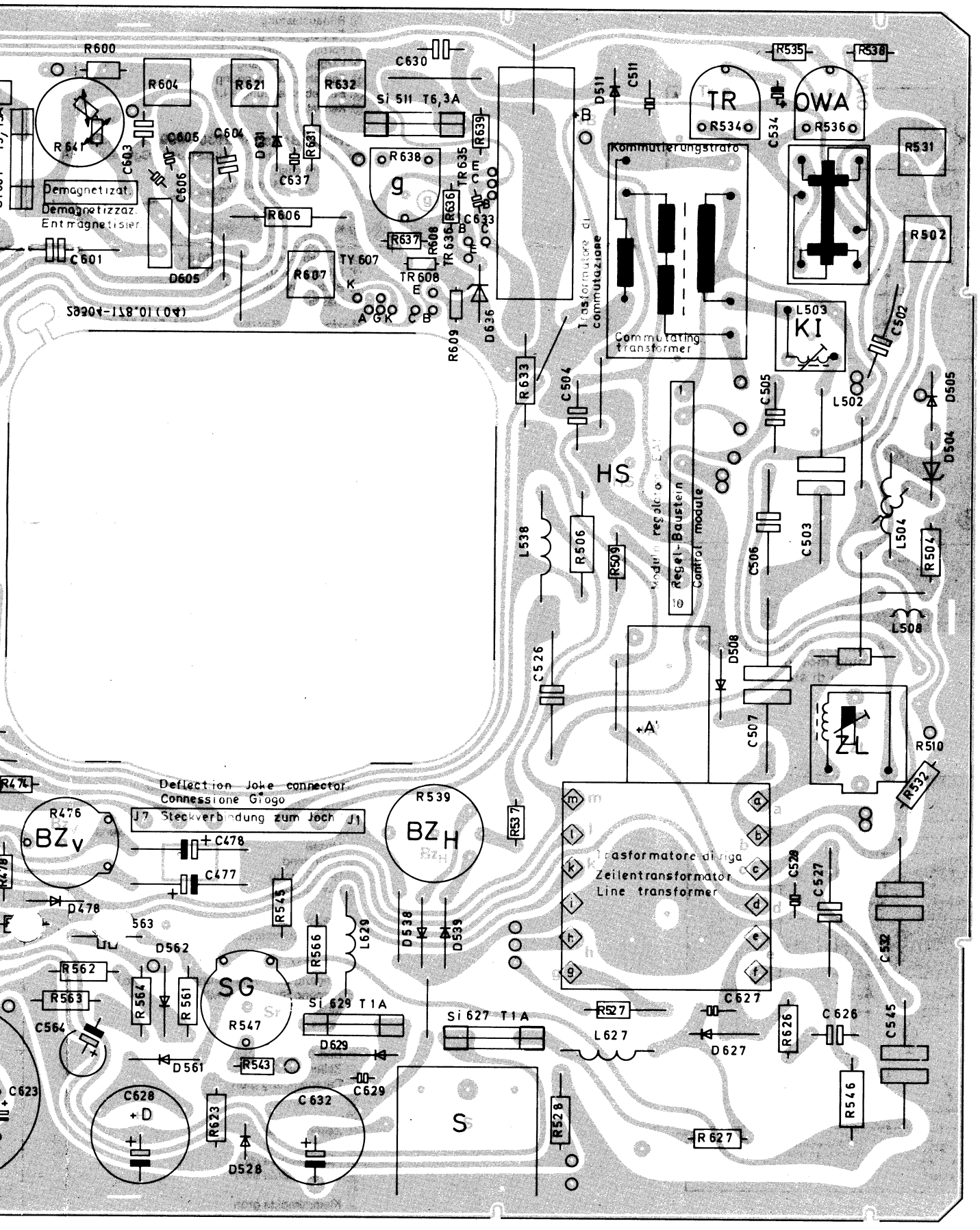
Änderungen vorbehalten / Alterations re

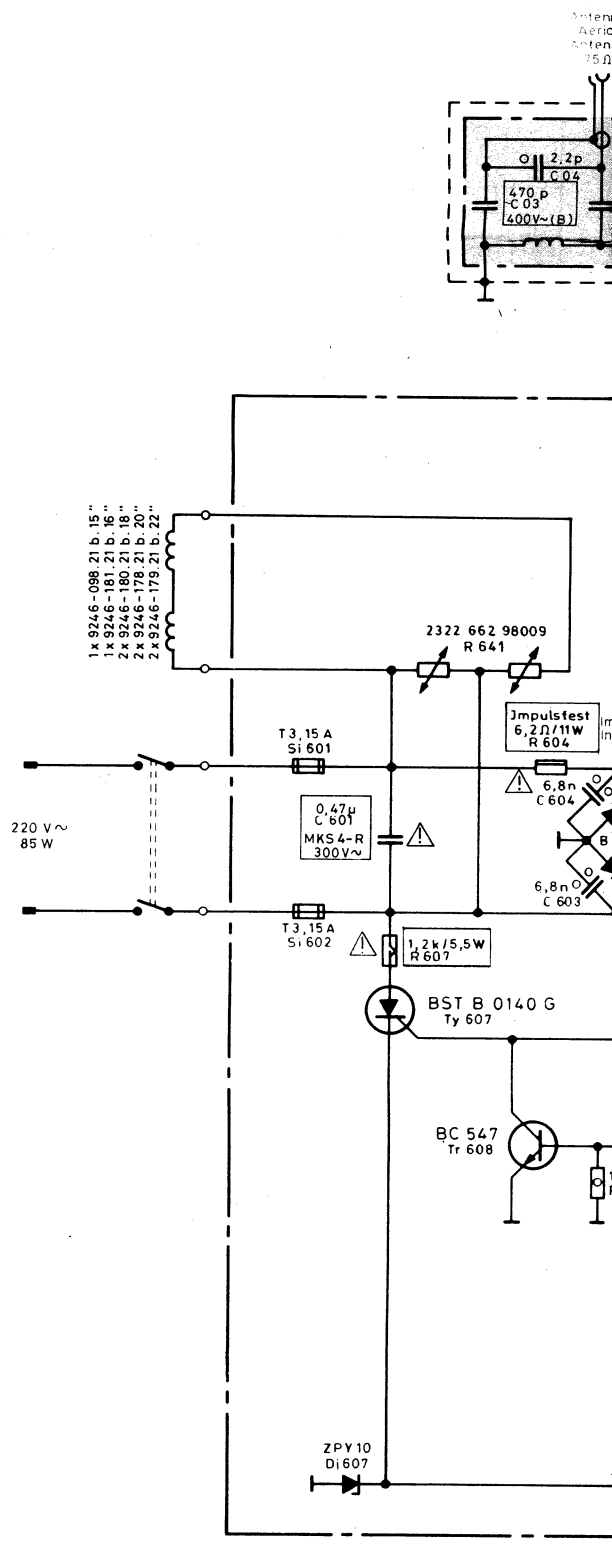
	Description	Denominazione
	EHT-control module	Modulo di regolazione
	or:	oppure:
	EHT-control module	Modulo di regolazione
	color module "PAL"	Modulo colore"PAL"
	or:	oppure:
	color module "PAL"	Modulo colore "PAL"
	color module "PAL"	Modulo colore "PAL"
	(CH-versione)	(p. CH)
	or:	oppure:
	color module "PAL"	Modulo colore "PAL"
	(CH-versione)	(p. CH)
	color module "PAL"	Modulo colore "PAL"
	(GB-versione)	(p. GB)
	or:	oppure:
	color module "PAL"	Modulo colore "PAL"
	(GB-versione)	(p. GB)
	line output transformer	Trasform. di rete cpl.
		oppure:
	Atput trans	Trasform. di rete cpl.
l	modul spare-parts	Partie sengole per module
il-	see separate modul	vedi lista parts di
	spare parts-list	ricambio
	mechanical parts	parti meccaniche
l-	support for	Supporto p. mod. orri.vert.
	vertical module	
ein	support f. color module	Supporto p. mod. colore
e	insulator	Isolante
	knob	Tasto
	EHT-retainer	Supporto moltipl.
	cable clamp	Fermacavo
IT	linearity unit cpl.	Unita di linearita
	switch	Interruttore
	focus control	Regol. di focalizz.
000	EHT-tripler BG 2000	Moltipl. BG 2000
	or:	oppure:
	EHT-tripler TVK 86-5	Moltipl. TVK 86-5
	switch	Interruttore
	delay line	Linea di ritardo
	tube socket board cpl.	Piastro cines. cpl.
	or:	oppure:
	tube socket board	Piastro cines. cpl.

Pos. No.	Fig. No.	Bestell-Nr./Part No. Réf./Nr. d'ordinazioni		Benennung	Description	Denominazione
24.1		09622-026.02		Bildrohrfassung	tube socket	Zoccolo cines
24.2		29701-463.01		Hochspannungsabdeckung	cover	Copertura
24.3		29701-464.01		Deckel	lid	Vetrino
24.4		8132-001-393	3x	Faltstecker	contact	Spina
24.5		8322-000-033		Funkenstrecke 14/1-017.07	spark gab 14/1-017.07	Scaricatore 14/1-017.07
24.6		8322-000-021		Funkenstrecke AG 20 P 15	spark gab	Scaricatore AG 20 P 15
				Elektrische Teile	electrical parts	Parti elettriche
		09245-848.21		Kombi-Eingangsdrossel	combi input choke	Impedanze d' ingresso
L 337		8140-525-217		Drossel 400/E7µH (nicht für GB)	choke 400/E 7µH (not for GB)	Impedenza 400/E 7µH
L 356		8140-525-046		Drossel DR 401/120µH 07	choke DR 401/120µH 07	Impedenza 401/120µH 07
L 502		09240-806.00		BK-Drossel	BK-choke	Impedenza
L 503		09240-805.21		Einstellspule 8192	adjustment coil	Bobina di regolazione
oder					or:	oppure:
L 503		09246-825.21		Einstellspule 8192 nur f. Bildr. 506 BYB 22 TC 01"PX"	adjustment coil only for picture 506 BYB 22 TC 01 "PX"	Bobina di regolazione
L 504		09240-813.01		SCHUTZSCHALTUNGS-ÜBER-TRAGER	overload protect. switch	Trasf. interr. di prot.
L 508		8140-525-204		Drossel DR 405/180µH	choke DR 405/180µH	Impedenza DR 405/180µH
L 538		09245-401.00		Shiftdrossel	choke	Impedenza
L 627		09240-805.00		BK-Drossel	BK-choke	Impedenza
L 629		09240-806.00		BK-Drossel	BK-choke	Impedenza
L 634		09240-811.01		Drossel	choke	Impedenza
L 635		8140-525-032		Drossel Typ 458/120µH	choke 458/120µH	Impedenza 458/120µH
T 608		8302-200-577		BC 547		
T 635		8302-210-645		BD 645		
T 636		8302-202-538		BC 548		
TY 501/508		19799-154.97				
TY 503		8309-502-128		17127		
oder						
TY 503		8309-502-125		17126		
TY 607		8309-501-140		0140 G		
D 337		8309-701-110		BZX 83 C9 V1		
D 399		8309-201-033		BA 157		

Pos. No.	Fig. No.	Bestell-Nr./Part No. Réf./Nr. d'ordinazioni	Benennung
D 477		8309-201-033	BA 157
D 478		8309-201-033	BA 157
D 504		8309-709-068	ZY 68
D 505		8309-201-033	BA 157
D 508		8309-204-040	BY 295/600 G
D 511		8309-210-122	SKE 2 G2/01
D 528		8309-218-001	BYY 56
D 538		8309-201-033	BA 157
D 539		8309-201-033	BA 157
D 561		8309-201-033	BA 157
D 562		8309-201-033	BA 157
D 605		8308-158-003	B 250/C1400
D 607		8309-703-210	ZPY 10
D 627		8309-204-101	BY 197
D 629		8309-204-005	BY 198
D 631		8309-215-021	1N 4001
D 636		8309-709-100	ZPD 8,2
D 637		8309-215-021	1N 4001
D 638		8309-215-021	1N 4001
D 639		8309-215-021	1N 4001
C 473		8410-820-020	100µF/16V
C 621/2/3/4		8410-270-008	220/150/47/22µF
C 621/2/3		8443-309-008	220/150/68µF 385V (nur für GB-Version)
C 628		8446-794-135	220µF/40V
C 631		8446-794-131	100µF/40V
C 632		3446-794-135	220µF/40V
C 639		8446-794-075	220µF/16V
C 501		8607-109-111	560pF/10%/1,5KΩ
C 502		8515-911-094	FKP 1 2700pF/10%/1000 V
C 503		8515-911-535	FKP 1/0,062µF/5%/1000V
C 505		8523-721-047	KC 0,047µF/10%/400V
C 506		8515-911-525	FKP 1/0,04µF/3,5%/630V
C 507		8515-940-439	FKP 1/0,22µF/5%/630V
C 526		8525-999-122	MKC 4-S/2,3µF/6%/400V
C 527		8515-911-115	FKP 1/0,01µF/20%/1000V
C 532		8525-999-122	MKC 4-S/2,3µF/6%/400V
C 601		8511-792-147	0,47µF/10%/250V
C 626		8583-621-102	KC 0,1µF/20%/160V
C 697		8650-131-012	150pF/20%/2KV
R 398		8705-269-291	5,6KΩ/10%
R 473		8705-227-249	100Ω/10%
R 502		8730-199-054	11W/180Ω

Pos. No.	Fig. No.	Bestell-Nr./Part No. Réf./Nr. d'ordinazioni	Benennung
R 503		8701-355-087	(SKS 5A) 3,9KΩ
R 504		8705-227-219	5,6Ω/10%
R 506		8730-042-211	4W/2,7Ω/10%
R 509/B		8701-117-119	5,6Ω/5%
R 526		8701-344-269	680Ω/10%
R 527		8701-344-005	1,5Ω/5%
R 528		8705-227-275	1,2KΩ/10%(f.BG
oder			
R 528		8705-269-269	680Ω/10%(f. TK
R 532		8705-227-289	5,7KΩ/10%
R 537		8701-118-215	3,9Ω/10%
R 546/B		8700-261-115	56KΩ/NB
R 604		8730-199-020	11W/6,2Ω/5%
R 604		8730-199-032	17W/20Ω/5%(f.
R 606		8705-279-109	33KΩ/5%
R 607		8730-250-475	5,5W/1,2KΩ
R 621		8730-285-434	10W/24Ω/5%
R 623		8705-227-227	12Ω/10%
R 626		8705-225-213	3,3Ω/10%
R 627		8705-227-205	1,5Ω/10%
R 632		8730-045-010	5,5W/2,5Ω/5%
R 633		8705-269-313	47KΩ/10%
R 633		8705-279-313	47KΩ/10%(für G
R 634/B		8700-271-041	47Ω/NB
R 692		8700-161-039	2,2MΩ
R 529		29203-102.02	8,0 KV
R 641		8311-200-009	66298009
R 368		8797-215-005	5KΩ (K-Regler)
R 369		8790-509-045	5KΩ
R 387		8790-009-022	22KΩ
R 391		8790-009-019	10KΩ
R 393		8790-009-019	10KΩ
R 396		8790-009-019	10KΩ
R 476		8797-215-014	500Ω
R 539		8799-300-060	60Ω/3W
R 547		8797-215-674	470KΩ
R 638		8796-301-135	1KΩ
R 820		8790-509-015	25KΩ





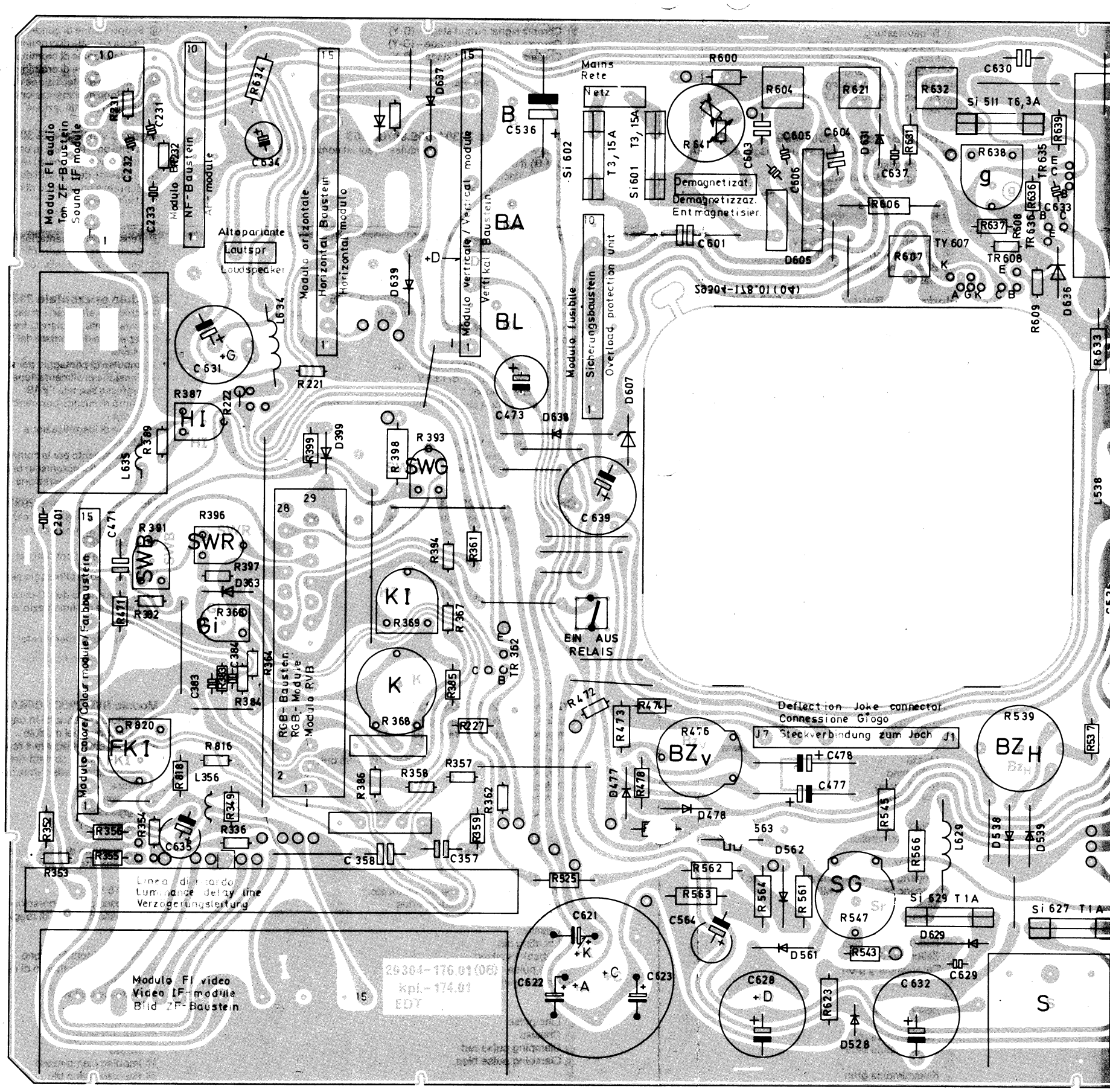
ERSATZTEIL-LISTE

GRUNDIG service

List of Spare-Parts · Liste de pièces détachées · Lista ricambi

Pos. No.	Fig. No.	Bestell-Nr./Part No. Réf./Nr. d'ordinazioni	Benennung	Description	Denominazione
1		72004-988.00	Chassis ohne Module mit K-Regler	chassis w/o module with k-control	Telaio senza moduli, con regolatore contrasto
1		72004-988.10	Chassis ohne Module ohne K-Regler	chassis w/o module w/o K-control	Telaio senza moduli, senza regolatore contrasto
			Module	moduls	Moduli
2		29301-002.91	BILD-ZF-BAUSTEIN	vision-IF-module cpl.	Modulo-FI-video cpl.
oder				or:	oppure:
2		29301-002.43	BILD-ZF-BAUSTEIN	vision-IF-module cpl.	Modulo-FI-video cpl.
2		29301-002.61	BILD-ZF-BAUSTEIN (GB-Version)	vision-IF-module cpl. (for GB)	Modulo-FI-video cpl. (p. GB)
3		29301-003.91	TON-ZF-BAUSTEIN	tone-IF-module cpl.	Modulo-FI-audio cpl.
oder				or:	oppure:
3		29301-003.05	TON-ZF-BAUSTEIN	tone-IF-module cpl.	Modulo-FI-audio cpl.
3		29301-003.61	TON-ZF-BAUSTEIN (GB-Version)	tone-IF-module cpl. (for GB)	Modulo-FI-audio cpl. (p. GB)
4		29301-004.90	NF-BAUSTEIN	sound-output module cpl.	Modulo-BF cpl.
oder				or:	oppure:
4		29301-004.04	NF-BAUSTEIN	sound-output module cpl.	Modulo-BF cpl.
5		29301-038.90	ELECTRONIC-SI.-BAUSTEIN	electr.-cut-out module	Modulo sicur. elett.
oder				or:	oppure:
5		29301-038.01	ELECTRONIC-SI,-BAUSTEIN	electr.-cut-out module	Modulo sicur. elett.
6		29301-046.93	RGB-BAUSTEIN	RGB-module	Modulo RGB cpl.
oder				or:	oppure:
6		29301-046.03	RGB-BAUSTEIN	RGB-module	Modulo RGB cpl.
6		29301-046.61	RGB-BAUSTEIN (GB-Version)	RGB-module (for GB)	Modulo RGB cpl. (p. GB)
7		29301-008.90	HORIZONTAL-BAUSTEIN	horizontal module	Modulo orrizontale cpl.
oder				or:	oppure:
7		29301-008.05	HORIZONTAL-BAUSTEIN	horizontal module	Modulo orrizontale cpl.
8		29301-009.90	VERTIKAL-BAUSTEIN	vertical module	Modulo verticale cpl.
oder				or:	oppure:
8		29301-009.05	VERTIKAL-BAUSTEIN	vertical module	Modulo verticale cpl.
9		29301-035.90	REGEL-BAUSTEIN	EHT-control module	Modulo di regolazione
oder				or:	oppure:
9		29301-035.03	REGEL-BAUSTEIN	EHT-control module	Modulo di regolazione
10		29301-024.90	FARBBAUSTEIN "PAL"	color module "PAL"	Modulo colore"PAL"
oder				or:	oppure:
10		29301-024.01	FARBBAUSTEIN "PAL"	color module "PAL"	Modulo colore "PAL"
10		29301-024.92	FARBBAUSTEIN "PAL" (CH-Version)	color module "PAL" (CH-versione)	Modulo colore "PAL" (p. CH)
oder				or:	oppure:
10		29301-024.02	FARBBAUSTEIN "PAL" (CH-Version)	color module "PAL" (CH-versione)	Modulo colore "PAL" (p. CH)
10		29301-024.61	FARBBAUSTEIN "PAL" (GB-Version)	color module "PAL" (GB-versione)	Modulo colore "PAL" (p. GB)
oder				or:	oppure:
10		29301-024.93	FARBBAUSTEIN "PAL" (GB-Version)	color module "PAL" (GB-versione)	Modulo colore "PAL" (p. GB)
11		29201-011.01	ZEILENTRAFO KPL.	line output transformer	Trasform. di rete cpl.
oder					oppure:
11		29201-011.02	ZEILENTRAFO KPL.	output trans	Trasform. di rete cpl.
			Einzelteile pro Modul siehe Modul-Ersatzteil-Liste	modul spare-parts see separate modul spare parts-list	Partie sengole per module vedi lista parts di ricambio
			Mechanische Teile	mechanical parts	parti meccaniche
12		29301-137.97	Stütze für Horizontal- u. Vertikal-Baustein	support for vertical module	Supporto p. mod. orri.vert.
13		29301-148.07	Stütze für Farbbaustein	support f. color module	Supporto p. mod. colore
14		07247-638.97	Isolierung für Stütze Pos. 13	insulator	Isolante
15		07645-590.01	Knopf	knob	Tasto
16		29701-145.97	Kaskadenhalter	EHT-retainer	Supporto moltipl.
17		08502-127.01	Kabelhalter	cable clamp	Fermacavo
18		29203-004.03	LINEARISIERUNGSEINHEIT	linearity unit cpl.	Unita di linearita
19		29701-465.01	Schalter	switch	Interruttore
20		29203-106.01	FOKUSREGLER	focus control	Regol. di focalizz.
21		8324-800.030	KASKADE BG 2000/641-000	EHT-tripler BG 2000	Moltipl. BG 2000
oder				or:	oppure:
21		8324-800-087	KASKADE TVK 86-5	EHT-tripler TVK 86-5	Moltipl. TVK 86-5
22		09621-113-02	Sicherungshalter	switch	Interruttore
23		9.47024-1101	Verzögerungsleitung	delay line	Linea di ritardo
24		29304-024.90	BILDROHRPLATTE	tube socket board cpl.	Piastro cines. cpl.
oder				or:	oppure:
24		29304-024.01	BILDROHRPLATTE	tube socket board	Piastro cines. cpl.

Pos. No.	Fig. No.	Bestell-Nr./Part No. Réf./Nr. d'ordinazioni	Benennung
24.1		09622-026.02	Bildrohrf
24.2		29701-463.01	Hochspanr
24.3		29701-464.01	Deckel
24.4		8132-001-393	3x Faltsteck
24.5		8322-000-033	Funkenstr 14/1-017.
24.6		8322-000-021	Funkenstr AG 20 P 1
			Elektrisc
		09245-848.21	Kombi-Ein
L 337		8140-525-217	Drossel 4 (nicht fi
L 356		8140-525-046	Drossel D
L 502		09240-806.00	BK-Drosse
L 503		09240-805.21	Einstells
oder			
L 503		09246-825.21	Einstells nur f. Bi 22 TC 01*
L 504		09240-813.01	SCHUTZSCH TRÄGER
L 508		8140-525-204	Drossel D
L 538		09245-401.00	Shiftdros
L 627		09240-805.00	BK-Drosse
L 629		09240-806.00	BK-Drosse
L 634		09240-811.01	Drossel
L 635		8140-525-032	Drossel T
T 608		8302-200-577	BC 547
T 635		8302-210-645	BD 645
T 636		8302-202-538	BC 548
TY 501/508		19799-154.97	
TY 503		8309-502-128	17127
oder			
TY 503		8309-502-125	17126
TY 607		8309-501-140	0140 G
D 337		8309-701-110	BZX 83 C9
D 399		8309-201-033	BA 157



Tuner 29500-029.01 (.05 für II)
Kabel-Tuner 29500-025.02
Servicearbeiten bei Modulaustausch: keine

Ton-ZF-Baustein 003.91/003.05
Servicearbeiten bei Modulaustausch: keine
Belegung der Modulkontakte:
① Ton-ZF-Signaleingang
④ Masse
⑤ Kennstift
⑦ Betriebsspannung +H/14,2 V
⑧ NF-Ausgang (geregelt)
⑨ NF-Ausgang (ungeregelt)
⑩ Lautstärkeregelung

NF-Baustein 29301-004.90/004.04
Servicearbeiten bei Modulaustausch: keine
Belegung der Modulkontakte:
① Masse
④ Masse
⑤ Kennstift
⑥ NF-Eingang
⑧ NF-Ausgang
⑩ Betriebsspannung +G/ca. 23 V

Bild-ZF-Baustein 29301-002.91/002.43
Servicearbeiten bei Modulaustausch:
Rauschfreies Antennensignal eines Band V-Senders einspeisen. (RV)-Regler drehen, bis das Bild verrauscht erscheint, danach zurückdrehen, bis das Rauschen verschwindet. Regler noch ein wenig weiterdrehen.
Belegung der Modulkontakte:
② Meßpunkt (Z), ZF-Regelspannung
③ Kennstift
⑦ Betriebsspannung +F/15 V
⑨ Masse
⑩ Tastimpuls
⑫ Masse
⑬ Regelspannung
⑭ Viodeoausgang, negativ
⑮ Videoausgang, positiv

Farbbaustein 29301-024.90/024.01
Servicearbeiten bei Modulaustausch:
Einstellung des Farbkontrast-Grobreglers (FK) kontrollieren.
Belegung der Modulkontakte:
① Masse
② Eingang FBAS-Signal
③ Farbkontrast-Regelung
④ negative Zeilenimpulse (Auf- und Austastung)
⑥ Masse
⑧ Bildaustastung
⑨ Farbsignalausgang – (B-Y)
⑩ Farbsignalausgang – (G-Y)
⑪ Farbsignalausgang – (R-Y)
⑬ Farbabschaltspannung
⑭ Betriebsspannung +L/15 V
⑮ Kennstift

Vertikal-Baustein 29301-009.90/009.05
Servicearbeiten bei Modulaustausch: Ggf. Regler (BA), (BL), (B) nachstellen.
Belegung der Modulkontakte:
① Bildrücklaufaustastung
② Vertikalausgang
③ Kennstift
④ Gegenkopplung
⑥ Betriebsspannung +D/18,6 V
⑨ Bildoszillator/Serviceschalter Strich
⑬ Bildsynchronimpulse
⑭ Masse

Horizontal-Baustein 29301-008.90/008.05
Servicearbeiten bei Modulaustausch: Ggf. Zeilenfrequenz mit Regler (Z) nachstellen.
Belegung der Modulkontakte:
① Masse
② Ansteuerimpuls für Zeilenendstufe
③ Betriebsspannung +B/13,5 V
⑤ Eingang FBAS-Signal
⑦ Meßpunkt, Kurzschließen zum Zeilenfrequenzabgleich
⑨ Kennstift
⑩ Masse
⑫ Anschluß zur VCR-Umschaltung
⑬ Bildsynchronimpuls
⑭ Vergleichimpuls

Regel-Baustein 29301-035.90/035.05
Servicearbeiten bei Modulaustausch: Hochspannung = 23 kV kontrollieren und bei Bedarf mit Regler (HS) nachstellen.
Belegung der Modulkontakte:
①, ② } Ansteuerimpuls für Regelthyristor Ty 503
④ Triggerung des Regel-ICs
⑥ Betriebsspannung +B/13,5 V
⑦ Masse
⑧, ⑨ } Referenzimpuls
⑩ Kennstift

RGB-Baustein 29301-046.03/.93
Servicearbeiten bei Modulaustausch:
Ggf. (SB) nachstellen
① Sättigungseinstellung (nur für Secam-Geräte)
② Masse
③ Y-Eingang
④ R-Y-Eingang
⑤ B-Y-Eingang
⑥
⑦ Helligkeitseinstellung
⑧ Kontrasteinstellung
⑨
⑩ +F/15 V
⑪ Eingang zur Y-Austastung (für Uhr etc.)
⑫ Eingang Strahlstrom Mittelwert
⑬ Masse
⑭ Masse
⑮ Kennstift
⑯ Bildrücklaufaustastung
⑰ Zeilenimpuls
⑱ Dateneingang grün
⑲
⑳
㉑ Zeilenimpuls
㉒ Masse
㉓ Klemmimpuls rot
㉔ Klemmimpuls blau
㉕
㉖ Klemmimpuls grün
㉗
㉘
㉙ +C/200 V

Tuner 29500-029.01 (.05 for II)
Cable tuner 20500-025.02
Service work when replacing modules: none

Sound-IF module 003.91/003.05
Service work when replacing modules: none
Module contacts:
① Sound IF signal input
④ Chassis
⑤ Locating pin
⑦ Operating voltage +H/14.2 V
⑧ AF-output (controlled)
⑨ AF-output (not controlled)
⑩ Volume control

AF-module 29301-004.90/004.04
Service work when replacing modules: none
Module contacts:
① Chassis
④ Chassis
⑤ Locating pin
⑥ AF-input
⑧ AF-output
⑩ Operating voltage +G/approx. 23 V

Picture-IF module 29301.002.91/002.43
Service work when replacing modules: feed-in noise-free aerial signal of a band V-station. Turn (RV)-control until the picture appears noisy, turn control back until noise disappears. Adjust control a fraction further.
Module contacts:
② Test point (Z), IF-control voltage
③ Locating pin
⑦ Operating voltage +F/15 V
⑨ Chassis
⑩ Gating impulse
⑫ Chassis
⑬ Control voltage
⑭ Video output stage, negative
⑮ Video output stage, positive

Colour module 29301-024.90/024.01
Service work when replacing module: check adjustment of the colour contrast coarse control (FK).
Module contacts:
① Chassis
② Input FBAS-signal
③ Colour contrast control
④ Negative line impulses (gating & blanking)
⑥ Chassis
⑧ Picture blanking
⑨ Chroma signal output stage – (B-Y)
⑩ Chroma signal output stage – (G-Y)
⑪ Chroma signal output stage – (R-Y)
⑬ Colour killer voltage
⑭ Operating voltage +L/15 V
⑮ Locating pin

Vertical module 29301-009.90/009.05
Service work when replacing modules: readjust controls (BA), (BL), (B) if necessary.
Module contacts:
① Picture flyback blanking
② Vertical output
③ Locating pin
④ Inverse feedback
⑥ Operating voltage +D/18.6 V
⑨ Picture oscillator/service switch line
⑬ Picture synch impulses
⑭ Chassis

Horizontal module 29301-008.90/008.05
Service work when replacing modules: if required, readjust line frequency using control (Z).
Module contacts:
① Chassis
② Drive impulse for line output stage
③ Operating voltage +B/13.5 V
⑤ Input FBAS-signal
⑦ Test point, short circuit for line frequency alignment
⑨ Locating pin
⑩ Chassis
⑫ Connection for VCR-switch
⑬ Picture synch impulse
⑭ Comparative impulse

Control module 29301-035.90/035.03
Service work when replacing modules: check high voltage – 23 kV and readjust using control (HS) (if required).
Module contacts:
①, ② } Drive impulse for control thyristor Ty 503
④ Triggering of the control-IC
⑥ Operating voltage +B/13.5 V
⑦ Chassis
⑧, ⑨ } Reference impulse
⑩ Locating pin

RGB module 29301-046.03/.93
Service work when replacing module:
If required, read just control (SB)
Circuit connections:
① Saturation adjustment (for Secam receivers only)
② Chassis
③ Y-input
④ R-Y input
⑤ B-Y input
⑥
⑦ Brightness adjustment
⑧ Contrast adjustment
⑨
⑩ +F/15 V
⑪ Input for the Y-blanking (for clock etc.)
⑫ Input beam current middle value
⑬ Chassis
⑭ Chassis
⑮ Locating pin
⑯ Flyback blanking
⑰ Line pulse
⑱ Green input
⑲
⑳
㉑ Line pulse
㉒ Chassis
㉓ Clamping pulse red
㉔ Clamping pulse blue
㉕
㉖ Clamping pulse green
㉗
㉘
㉙ +C/200 V

Tuner 29500-029.01 (.05 per IT)
tuner per TV cavo 29500-025.02
Controllo da effettuarsi in caso di sostituzione del modulo: nessuno

Modulo Fi audio 003.91/003.05
Controllo da effettuarsi in caso di sostituzione del modulo: nessuno
Occupazione dei contatti del modulo:
① Ingresso segnale Fi audio
④ Massa
⑤ Perno d'identificazione
⑦ Tensione di alimentazione +H/14,2 V
⑧ Uscita BF (regolata)
⑨ Uscita BF (non regolata)
⑩ Regolazione del volume

Modulo BF 29301-004.90/004.04
Controllo da effettuarsi in caso di sostituzione del modulo: nessuno
Occupazione dei contatti del modulo:
① Massa
④ Massa
⑤ Perno di identificazione
⑥ Ingresso BF
⑧ Uscita BF
⑩ Tensione di alimentazione +G/ca. 23 V

Modulo FI video 29301-002.91/002.43
Controllo da effettuarsi in caso di sostituzione del modulo: alimentare un segnale d'antenna senza fruscio di un trasmettitore in banda V. Ruotare il regolatore (RV) finché l'immagine appare frusciata, dopodiché ruotarlo in senso contrario, finché il fruscio scompare. Ruotare il regolatore ancora un pò.
Occupazione dei contatti del modulo:
② Punto di misura (Z), tensione di controllo FI
③ Perno di indentificazione
⑦ Tensione di alimentazione +F/15 V
⑨ Massa
⑩ Impulso di controllo
⑫ Massa
⑬ Tensione di controllo
⑭ Uscita video, negativo
⑮ Uscita video, positivo

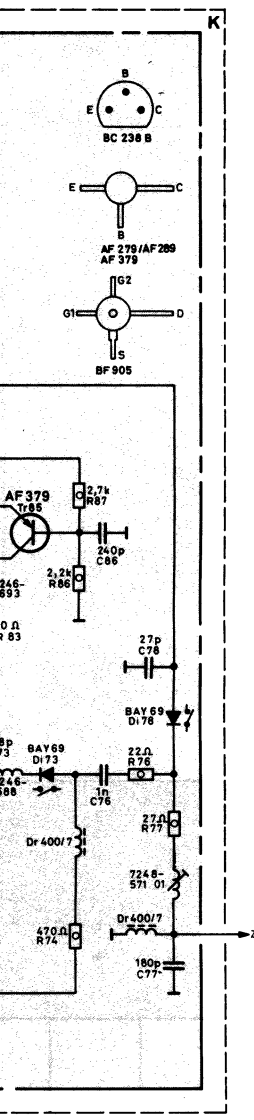
Modulo colore 29301-024.90/024.01
Controllo da effettuarsi in caso di sostituzione del mosulo: controllare il regolatore grossolano di contrasto colore (FK)
Occupazione dei contatti del modulo:
① Massa
② Ingresso segnale FBAS
③ Regolazione del contrasto colore
④ Impulsi di riga negativi (impulso di separazione e di soppressione)
⑥ Massa
⑧ Soppressione di quadro
⑨ Uscita segnale di crominanza – (B-Y)
⑩ Uscita segnale di crominanza – (G-Y)
⑪ Uscita segnale di crominanza – (R-Y)
⑬ Tensione d'interruzione colore
⑭ Tensione di alimentazione +L/15 V
⑮ Perno di identificazione

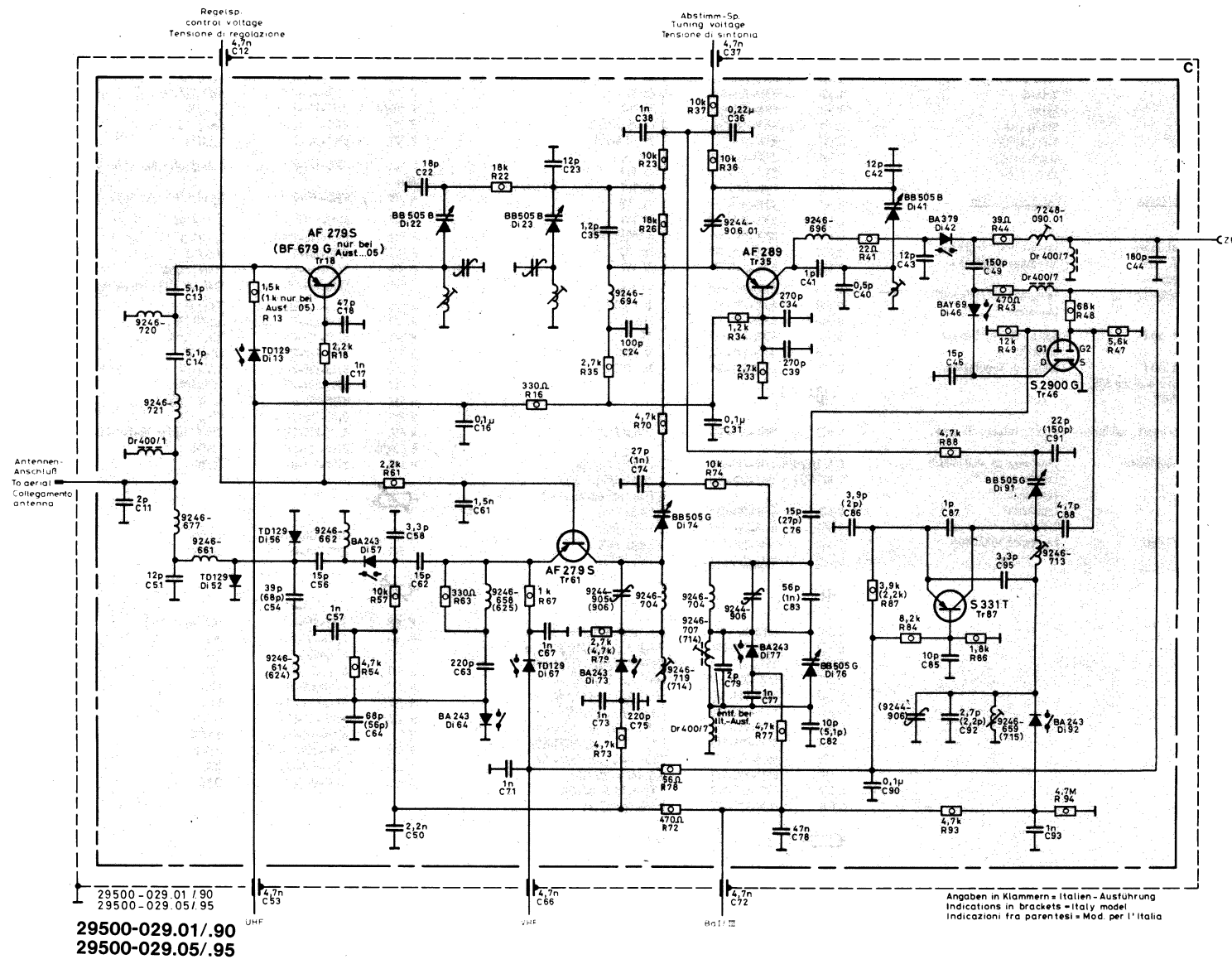
Modulo verticale 29301-009.90/009.05
Controllo da effettuarsi in caso di sostituzione del modulo: eventualmente ritoccare i regolatori (BA), (BL), (B).
Occupazione dei contatti del modulo:
① Soppressione ritorno di quadro
② Uscita verticale
③ Perno di identificazione
④ Controreazione
⑥ Tensione di alimentazione +D/18,6 V
⑨ Oscillatore di quadro/commutazione di servizio strisica
⑬ Impulsi di sincronismo di quadro
⑭ Massa

Modulo orizzontale 29301-008.90/008.05
Controllo da effettuarsi in caso di sostituzione del modulo: eventualmente regolare la frequenza di riga con il regolatore (Z).
Occupazione dei contatti del modulo:
① Massa
② Impulso di pilotaggio per stadio finale di riga
③ Tensione di alimentazione +B/13,5 V
⑤ Ingresso segnale FBAS
⑦ Punto di misura, cortocircuitare per la taratura della frequenza di riga
⑨ Perno di identificazione
⑩ Massa
⑫ Collegamento per la commutazione VCR
⑬ Impulso di sincronismo di quadro
⑭ Impulso di comparazione

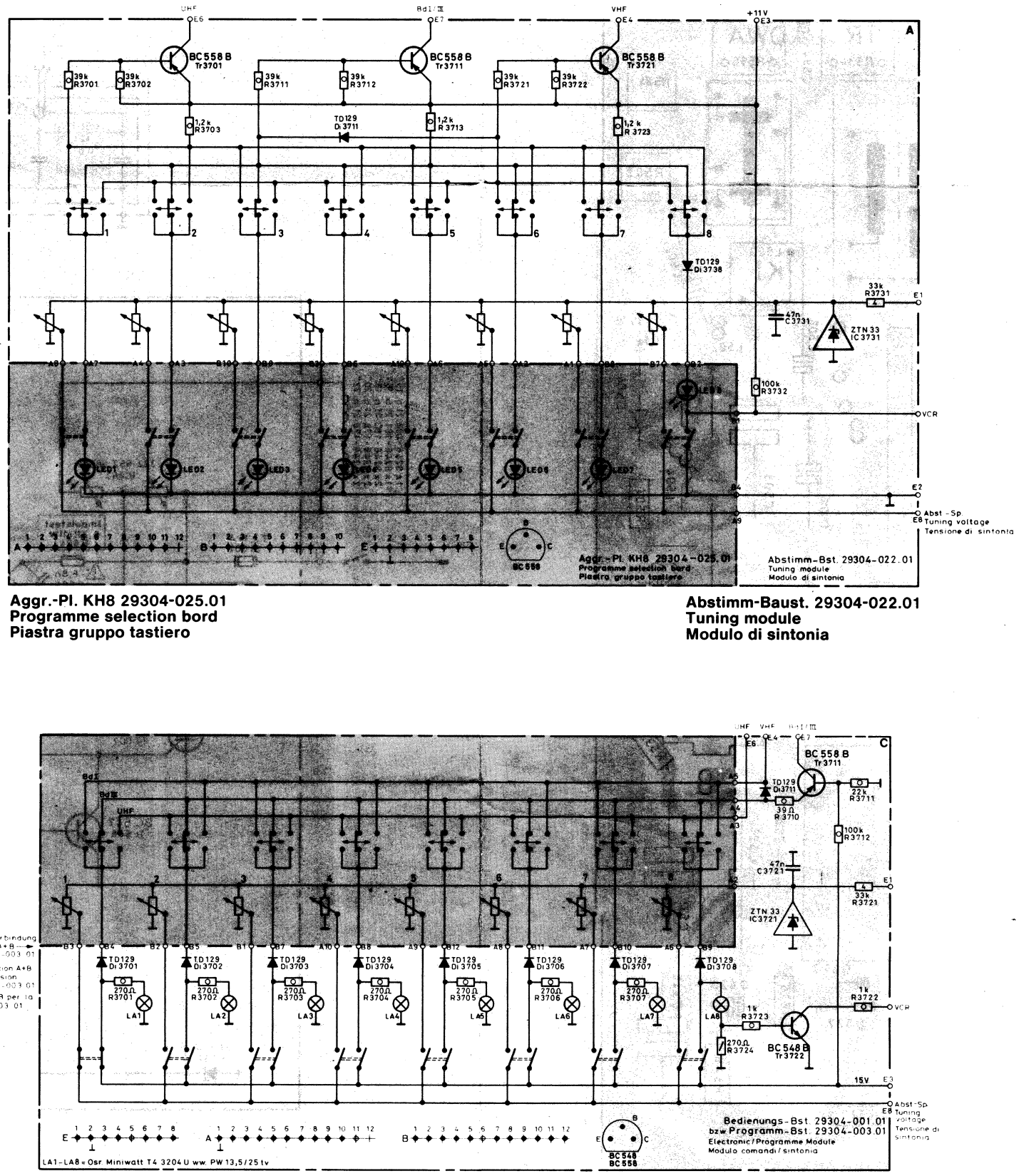
Modulo regolatore 29301-035.90/035.03
Controllo da effettuarsi in caso di sostituzione del modulo: controllare l'alta tensione = 23 kV e, se necessario, ritoccare con il regolatore (HS).
Occupazione dei contatti del modulo:
①, ② } Impulso di pilotaggio per il thytistor di controllo Ty 503
④ Triggerazione dell'IC di controllo
⑥ Tensione di alimentazione +B/13,5 V
⑦ Massa
⑧, ⑨ } Impulso di riferimento
⑩ Perno di identificazione

Modulo RVB 29301-046.03/.93
Controllo da effettuarsi in caso di sostituzione del modulo: eventualmente ritoceare il regolatore (SB)
Occupazione dei contatti del modulo:
① Regolazione della saturazione (solo per TV Secam)
② Massa
③ Ingresso Y
④ Ingresso R-Y
⑤ Ingresso B-Y
⑥
⑦ Regolazione della luminosità
⑧ Regolazione del contrasto
⑨
⑩ +F/15 V
⑪ Ingresso per soppressione Y (per orologio ecc.)
⑫ Ingresso corrente di raggio, valore medio
⑬ Massa
⑭ Massa
⑮ Perno di identificazione
⑯ Soppressione ritorno di quadro
⑰ Impulso di riga
⑱ Ingresso dati verde
⑲
⑳
㉑ Impulso di riga
㉒ Massa
㉓ Impulso clamp rosso
㉔ Impulso clamp blu
㉕
㉖ Impulso clamp verde
㉗
㉘
㉙ +C/200 V



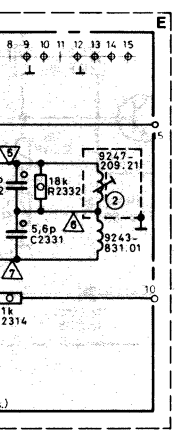


29500-029.01/.90
29500-029.05/.95

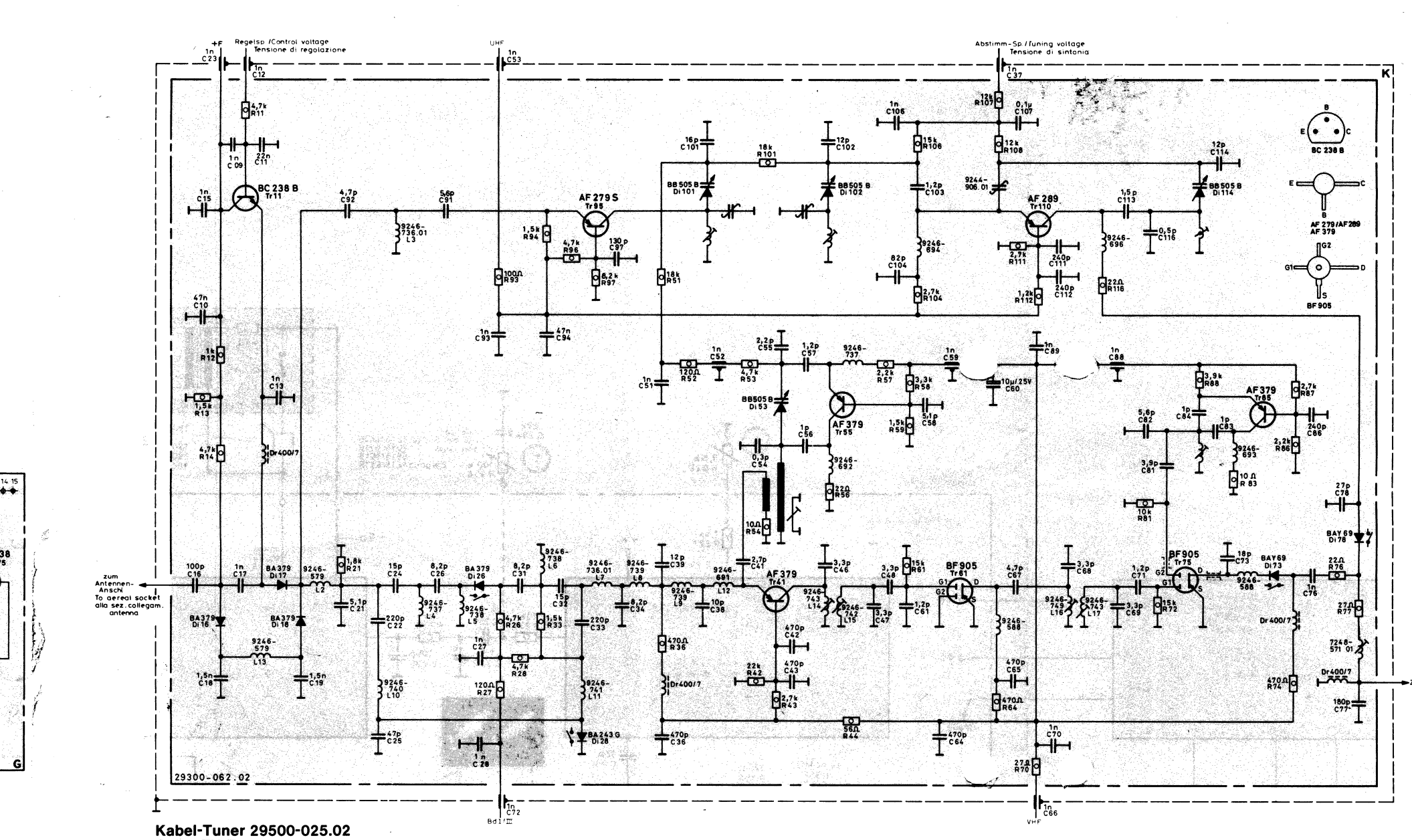


Aggr.-Pl. KH8 29304-025.01
Programme selection bord
Piastra gruppo tastiero

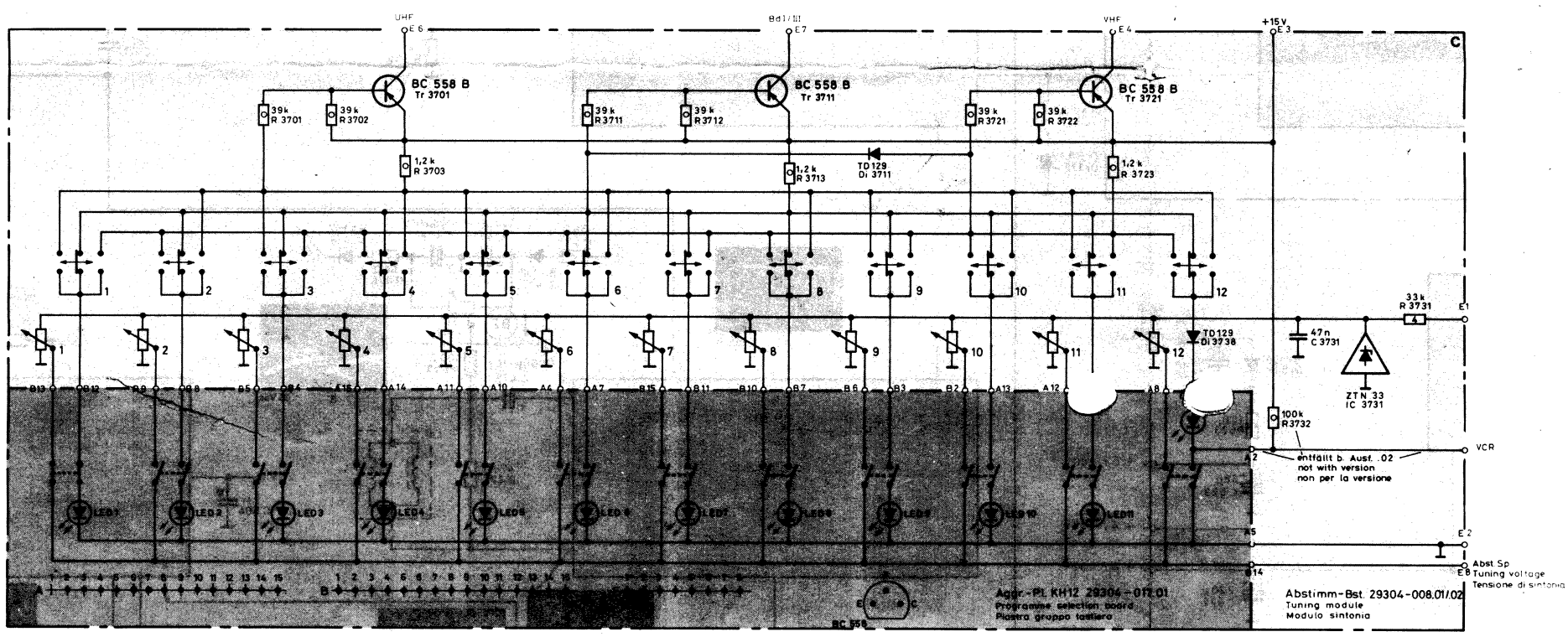
Abstimm-Baust. 29304-022.01
Tuning module
Modulo di sintonia



Bedienungs-Baust. 29304-001.01
bzw. Programm-Baust. 29304-003.01
Electronic/Programme Module
Modulo comandi/sintonia

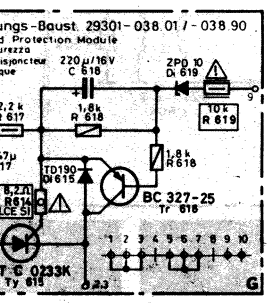


Kabel-Tuner 29500-025.02
Cable TV-Tuner
Tuner TV-cavo

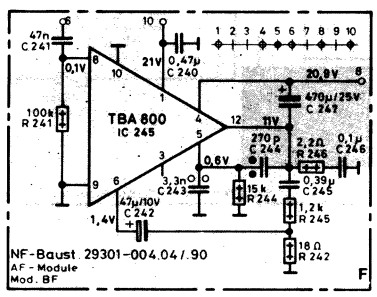


Aggr.-Pl. KH12 29304-017.01
Programme selection board
Piastra gruppo tastiero

Abstimm-Baust. 29304-008.01/02
Tuning module
Modulo sintonia



erungs-Baust. 29301-038.01/-038.90
load Protection Module
sicurezza
ule disjoncteur é lectronique



NF-Baust. 29301-004.04/.90
AF-Module
Mod. BF

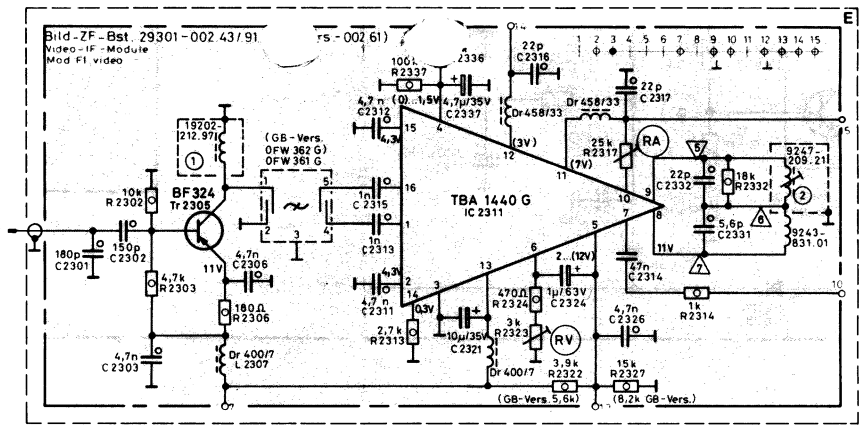
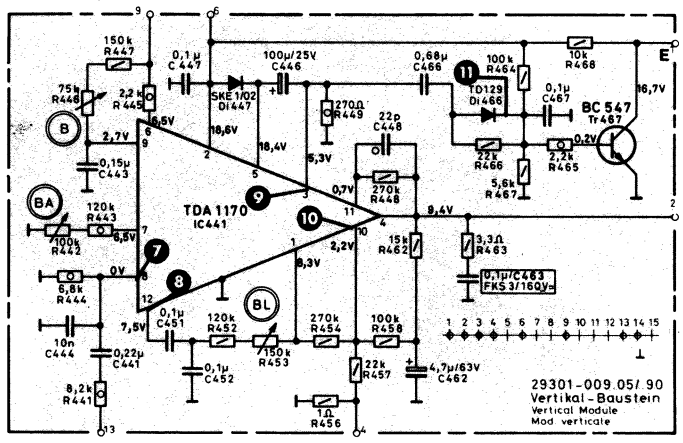
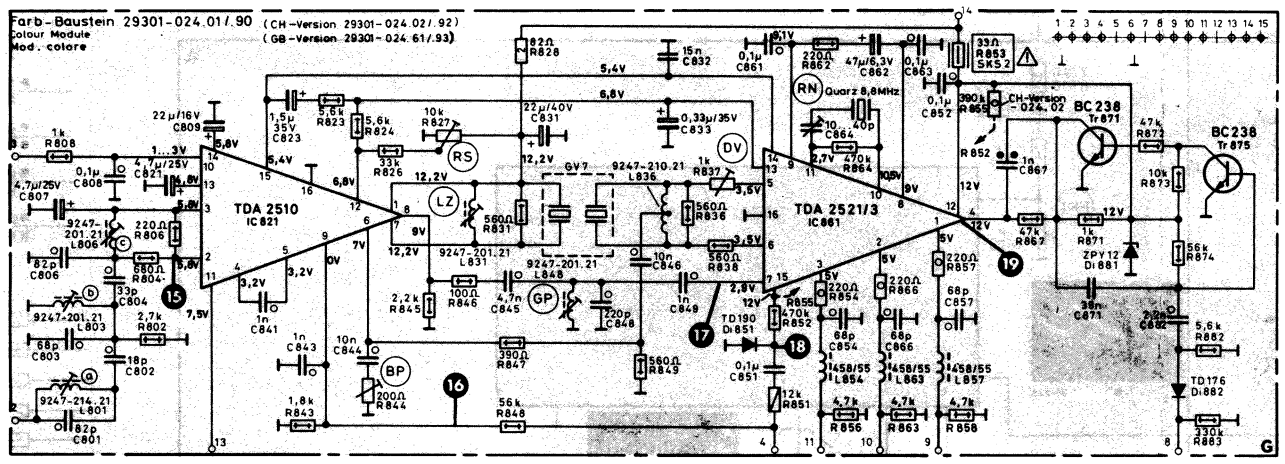


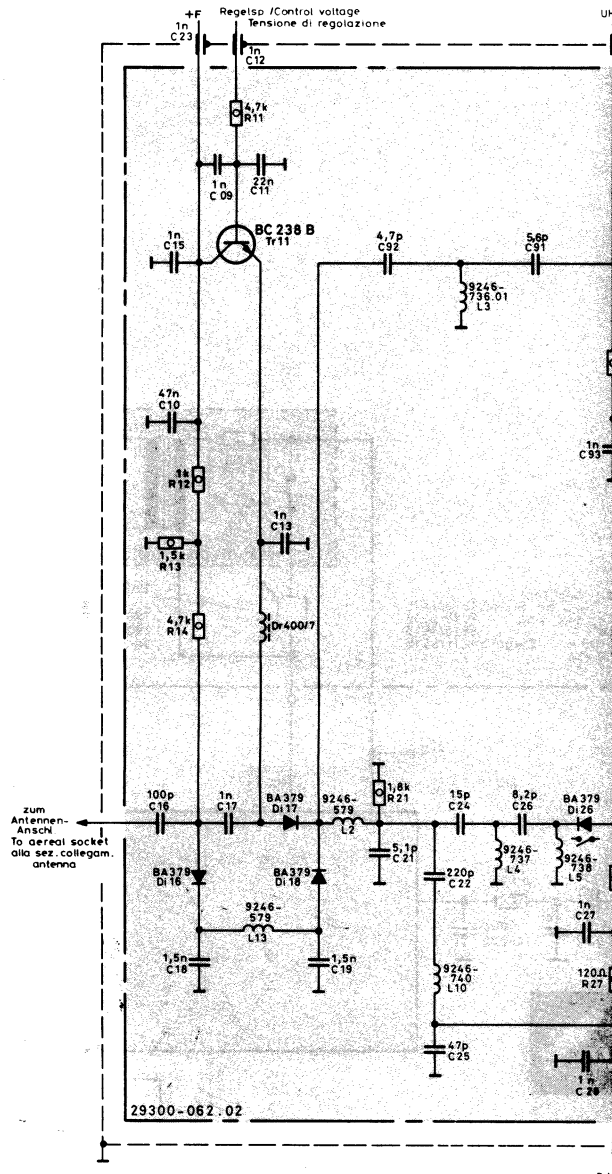
Bild-ZF-Baust. 29301-002.43/.91 (GB-Vers.-002.61)
Video-IF-Module
Mod. FI video



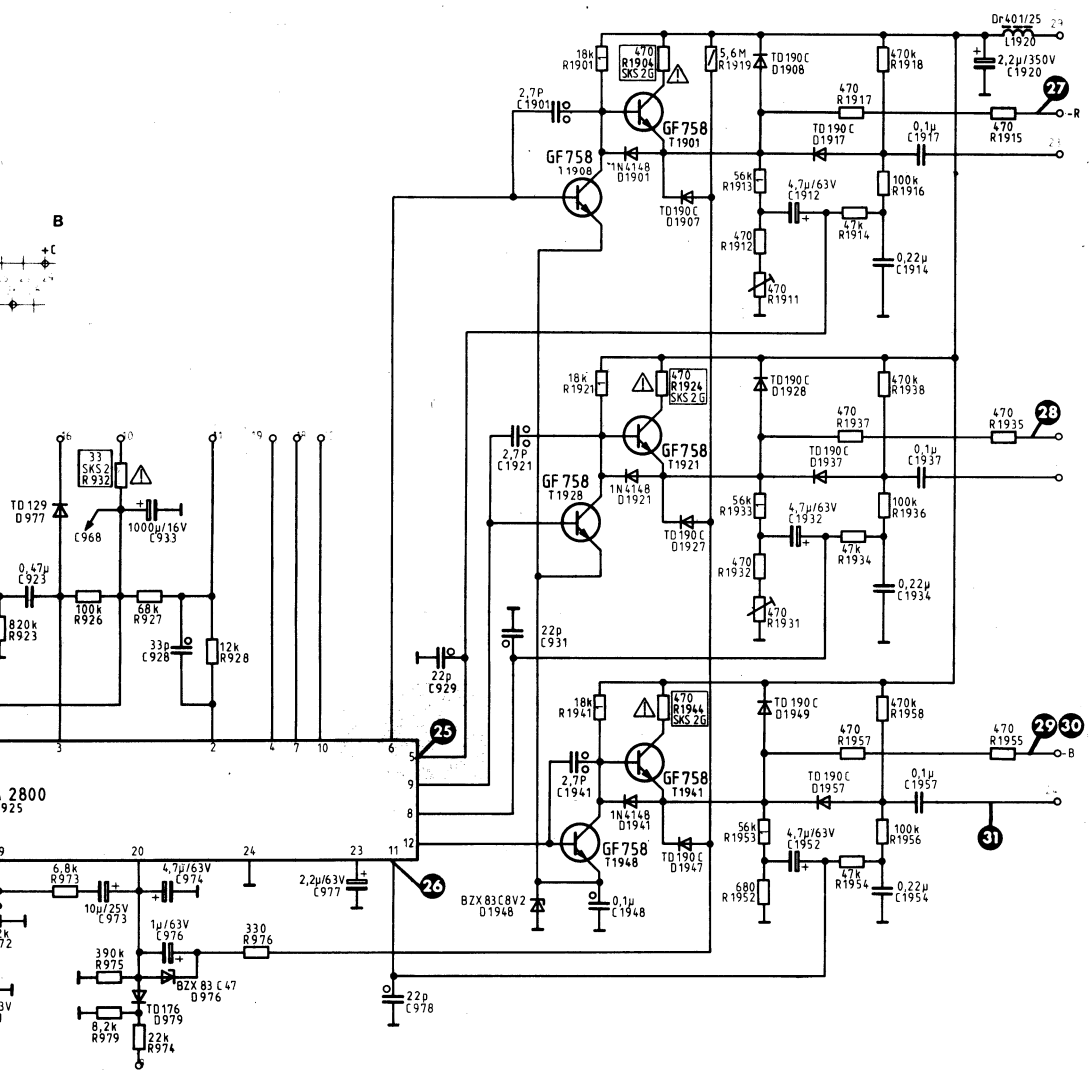
Vertikal-Baustein 29301-009.05/.90
Vertical Module
Mod. verticale

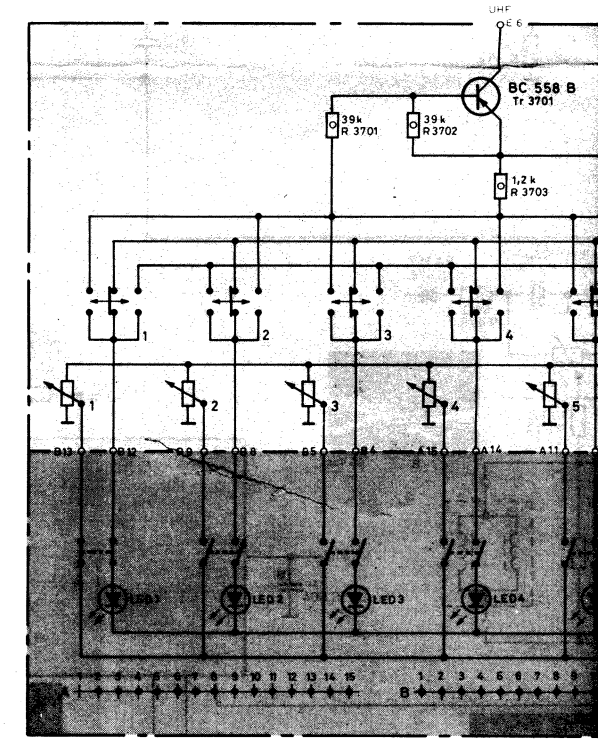


Farb-Baustein 29301-024.01/.90 (CH-Version 29301-024.02/.92)
Colour Module (GB-Version 29301-024.61/.93)
Mod. colore

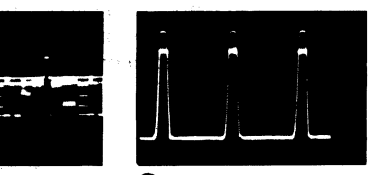


Kabel-Tuner 29500-025.02
Cable TV-Tuner
Tuner TV-cavo

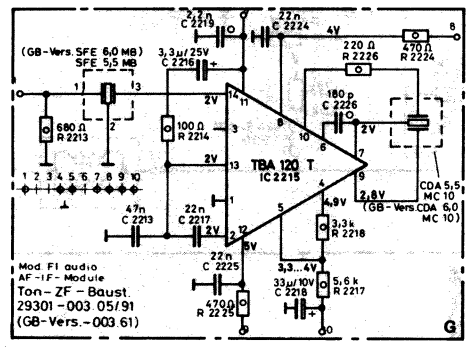




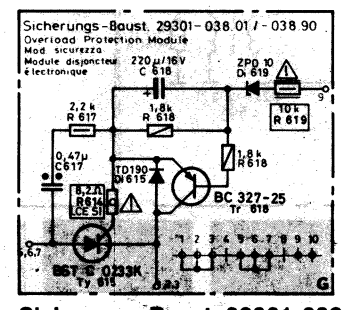
Aggr.-Pl. KH12 29304-017.01
Programme selection board
Piastra gruppo tastiero



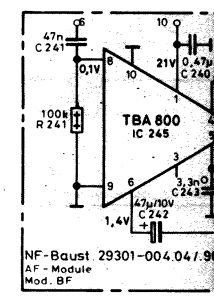
200 Vss° (31) Z 250 Vss



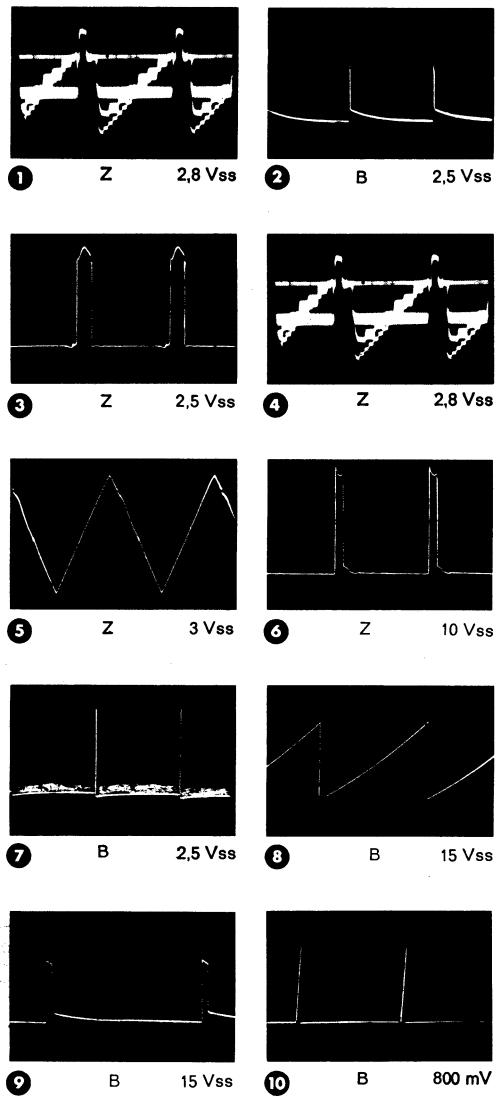
Ton-ZF-Baust. 29301-003.05/.91
(GB-Vers.-003.61)
Mod. FI audio
AF-IF-Module

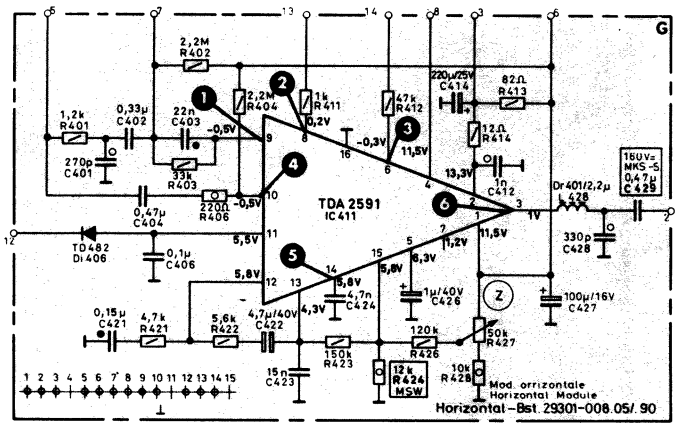


Sicherungs-Baust. 29301-038.01/-038.90
Overload Protection Module
Mod. sicurezza
Module disjoncteur é lectronique

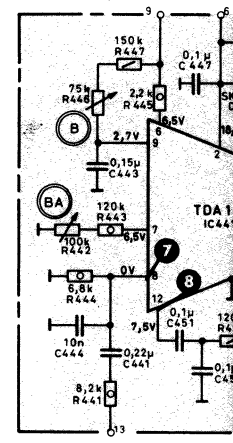


NF-Baust. 29301-
AF-Module
Mod. BF

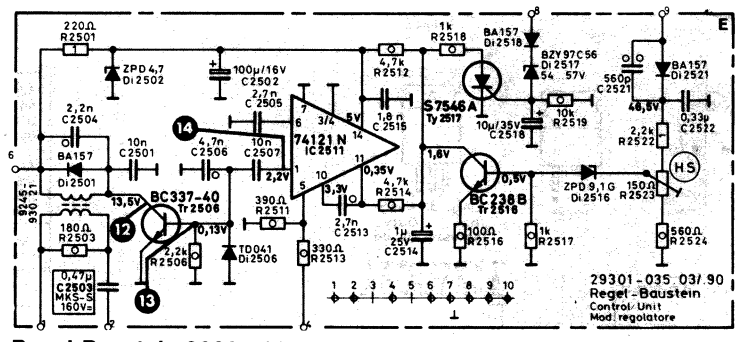

1 Z 2,8 Vss
2 B 2,5 Vss
3 Z 2,5 Vss
4 Z 2,8 Vss
5 Z 3 Vss
6 Z 10 Vss
7 B 2,5 Vss
8 B 15 Vss
9 B 15 Vss
10 B 800 mV
11 B 9 Vss
12 Z 14 Vss
13 Z 1,8 Vss
14 Z 3,5 Vss
15 Z 200 mVss
16 Z 1,4 Vss
17 Z 0,5 Vss
18 Z 46 Vss
19 B 2 Vss
20 Z 5 Vss
21 Z 0,8 Vss
22 Z 12 Vss
23 Z 11 Vss
24 B 11 Vss
25 Z 1,8 Vss
26 Z 1,8 Vss
27 Z 100 Vss°
28 Z 100 Vss °
29 Z 100 Vss°
30 B 200 Vss°
31 Z 250 Vss



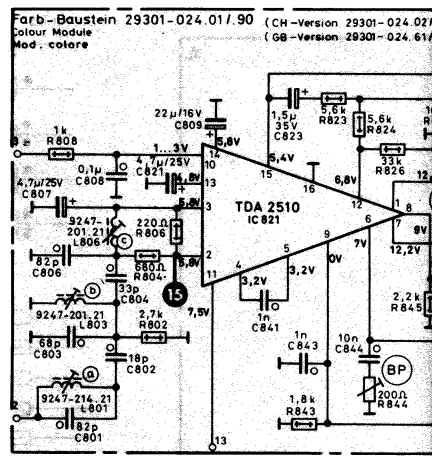
Horizontal-Baust. 29301-008.05/.90
Mod. orrizontale
Horizontal Module



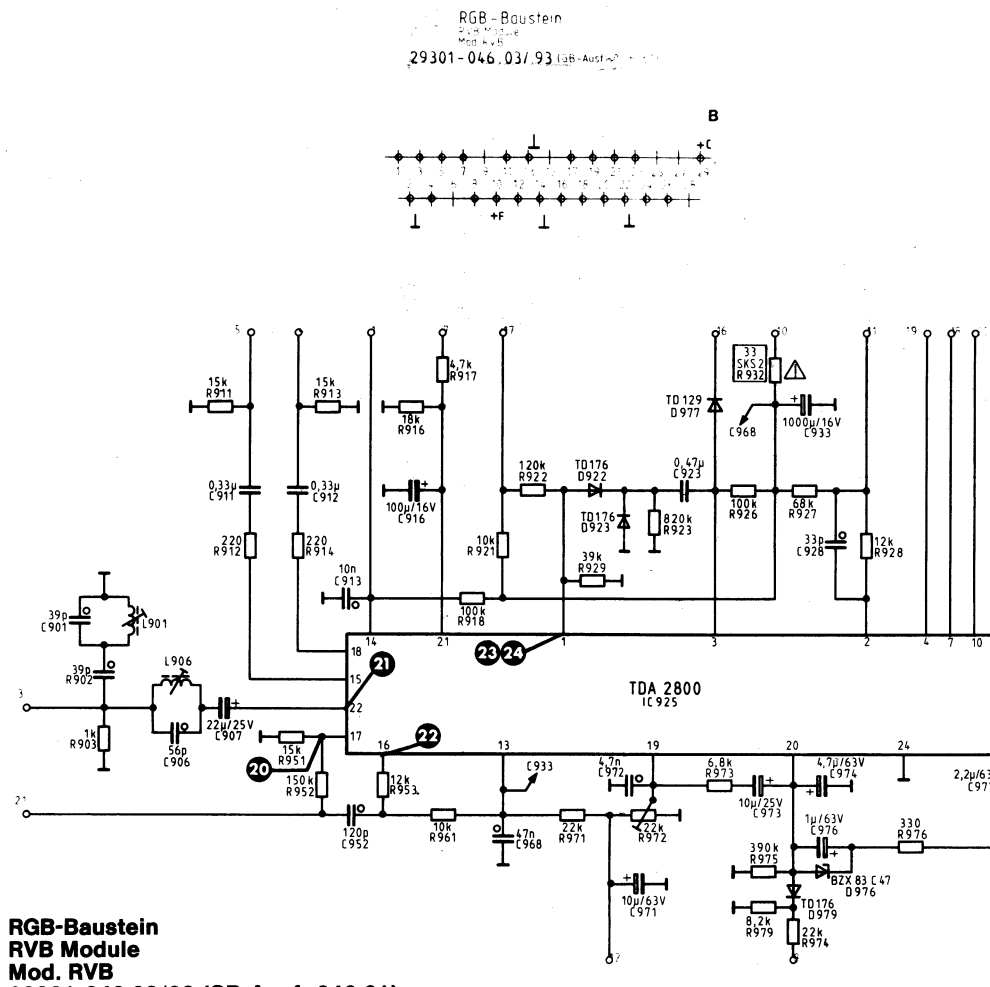
Vertikal-Baustein 29
Vertical Module
Mod. verticale



Regel-Baustein 29301-035.03/.90
Control Unit
Mod. regolatore



Farb-Baustein 29301-024.01/.90 (CH-V
Colour Module (GB-V
Mod. colore



RGB-Baustein
RVB Module
Mod. RVB
29301-046.03/93 (GB-Ausf.-046.61)

Ton
(GB
Mo
AF-